

CLAIMS

[1] An access control device for controlling an access from a resource use device to a resource providing device for using a resource provided by the resource providing device; the access
5 control device comprising:

a communication unit for communicating with the resource use device and the resource providing device;

an access permission unit for instructing the resource providing device via the communication unit to permit an access
10 from the resource use device;

a storage unit for storing information on the resource use device which has been permitted to access by the access permission unit as management information;

an existence check unit for checking a communication
15 state with the resource use device, the management information of which is stored in the storage unit, via the communication unit; and

an access discard unit for instructing the resource providing device via the communication unit to reject an access
20 from the resource use device, communication with which is determined to be disconnected by the existence check unit.

[2] An access control device according to claim 1, wherein the access discard unit deletes the information on the resource
25 use device, communication with which is determined to be

disconnected, from the storage unit.

[3] An access control device according to claim 1, wherein the information on the resource use device is information for
5 identifying the resource use device.

[4] An access control device according to claim 1, wherein the information on the resource use device includes information for identifying the resource use device and information for
10 identifying the resource providing device for accepting an access from the resource use device.

[5] An access control device according to claim 3 or 4, wherein the information on the resource use device includes
15 information on a command issued by the resource use device when accessing the resource providing device.

[6] An access control device according to claim 1, wherein the access permission unit notifies the resource providing device
20 of the information on the resource use device to be permitted to access, via the communication unit.

[7] An access control device according to claim 1, wherein the access discard unit notifies the resource providing device
25 of the information on the resource use device, communication with

which is determined to be disconnected, via the communication unit.

[8] An access control device according to claim 1, further comprising an existence check response unit for responding to the resource providing device via the communication unit when receiving a communication state check request from the resource providing device via the communication unit.

[9] An access control device according to claim 1, wherein:
the communication unit communicates with the resource use device via wireless communication; and
a communication range by the wireless communication is limited to a predetermined range.

[10] A resource providing device for accepting an access from a resource use device permitted to access by an access control device and providing a resource, the resource providing device comprising:

a communication unit for communicating with the access control device and the resource use device;

a storage unit for storing information on the resource use device intended by an instruction given by the access control device via the communication unit as management information;

an access permission unit for permitting an access from the resource use device, the management information of which is

stored in the storage unit;

an existence check unit for checking a communication state with the access control device via the communication unit; and

5 an access rejection unit for rejecting an access from the resource use device permitted to access by the access control device, communication with which is determined to be disconnected by the existence check unit.

10 [11] A resource providing device according to claim 10, wherein the access rejecting unit deletes the information on the resource use device permitted to access by the access control device, communication with which is determined to be disconnected, from the storage unit.

15 [12] A resource providing device according to claim 10, wherein the information on the resource use device is information for identifying the resource use device.

20 [13] A resource providing device according to claim 10, wherein the information on the resource use device includes information for identifying the resource use device and information for identifying the access control device which has permitted the resource use device to access.

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[14] A resource providing device according to claim 12 or 13, wherein the information on the resource use device includes information on a command issued by the resource use device when accessing the resource providing device.

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[15] A resource providing device according to claim 10, wherein when instructed by the access control device via the communication unit to reject an access from the resource use device, the access rejecting unit rejects an access from the resource use device intended by the instruction.

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[16] A resource providing device according to claim 15, wherein the access rejecting unit deletes the information on the resource use device intended by the instruction from the storage unit.

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[17] A resource providing device according to claim 10, wherein:

the communication unit communicates with the access control device via wireless communication; and

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a communication range by the wireless communication is limited to a predetermined range.

[18] An access control system comprising:

a resource providing device for providing a resource;

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a resource use device for accessing the resource; and
an access control device for controlling an access by
the resource use device;

wherein:

5 the access control device includes:

a communication unit for communicating with
the resource use device and the resource providing device;

an access permission unit for instructing the
resource providing device via the communication unit to permit
10 an access from the resource use device;

a storage unit for storing information on the
resource use device permitted to access by the access permission
unit as management information;

an existence check unit for checking a
15 communication state with the resource use device, the management
information of which is stored in the storage unit, via the
communication unit; and

an access discard unit for instructing the
resource providing device via the communication unit to reject
20 an access from the resource use device, communication with which
is determined to be disconnected by the existence check unit; and

the resource providing device includes:

a resource providing communication unit for
communicating with the access control device and the resource use
25 device;

a resource providing storing unit for storing information on the resource use device intended by the instruction given by the access control device via the resource providing communication unit as management information;

5 a resource access permission unit for permitting an access from the resource use device, the management information of which is stored in the resource providing storage unit;

10 a resource providing existence check unit for checking a communication state with the access control device via the resource providing communication unit; and

 an access rejection unit for rejecting an access from the resource use device permitted to access by the access control device, communication with which is determined to be
15 disconnected by the resource providing existence check unit, and an access from the resource use device intended by the instruction given by the access control device via the resource providing communication unit.